UNITED STATES PATENT AND TRADEMARK OFFICE

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10/609,426	06/27/2003	Richard T. Oesterreicher	IVBU-0124	7950

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/609,426	OESTERREICHER ET AL.
	Examiner	Art Unit
	Joseph E. Avellino	2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 March 2007</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-32</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-32</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some *   c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-32 are presented for examination; claims 1, 13, and 21 independent.

Specification

2.   The Office has considered the amendment to the specification. The objection is

hereby withdrawn.

Double Patenting

3.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees. A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140
F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).
    A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.
    Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

    Claims 1-32 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 21-40 of

copending Application No. 11/468,613. Although the conflicting claims are not identical,

they are not patentably distinct from each other because the claim language of the '613

application essentially recites the exact same limitations as its parent case, the instant

application.

This is a <u>provisional</u> obviousness-type double patenting rejection because the

conflicting claims have not in fact been patented.

Although Applicant has reserved action on this rejection until allowance of one of

the cases, the rejection will be maintained until sufficient action has been done.

Claim Rejections - 35 USC § 101

4.   The Office has considered the amendment to claim 13. The rejection is hereby

withdrawn.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

Claims 1, 2, 4, 8-11, 21, 22, 24, and 28-31 are rejected under 35 U.S.C. 102(b)

as being anticipated by Narendran et al. (USPN 6,070,191) (hereinafter Narendran).

5.   Referring to claim 1, Narendran discloses a method for selecting a server (i.e.

document server) from a plurality of servers (i.e. all the servers included in Figure 1, ref.

10, specifically the Round Robin DNS, Redirection servers, and Document servers S_1-S_N) to service a request for content (i.e. document stored on a document server), comprising:

designating a director (i.e. redirection server) from the plurality of servers to receive the request, wherein the designation is made on a request-by-request basis (i.e. DNS server 12 multiplexes the requests among the redirection servers 14-1, 14-2) (col. 4, lines 41-45);

determining if the content is present on the director (i.e. the redirection server already knows that no documents are stored on the system, and therefore has already made the determination that it cannot service the request locally so it must redirect to a particular document server) (col. 4, lines 45-67); and

allocating to the director the task of selecting a server to service the request from the plurality of servers, said server having stored therein the content (i.e. document) the director using a state table using parametric information for servers in the plurality of servers, wherein said parametric information comprises information identifying assets (i.e. documents) maintained on each server (i.e. based on the distribution of the documents throughout the servers, the redirection servers will select a server which actually has the document located on the server (i.e. with respect to Figure 2, , redirection server 14-1 would inherently know that document 2 is located on document servers S_2 and S_3 and would not select server S_1 to service document 2) (Figure 2; col. 4, lines 45-67).

6.   Referring to claim 2, Narendran discloses the designation of the director is done
in a round-robin fashion (col. 3, lines 57-61).

7.   Referring to claim 4, Narendran discloses selecting the director if the content is
present on the director (i.e. since the director never has the document, since the
directors of Narendran are redirection servers, this satisfies the limitation since the
selection of the director will only occur if the content is present on the director) (e.g.
abstract; col. 4, liens 20-25).

8.   Referring to claim 8, Narendran discloses said parametric information further
includes whether each asset is a new release (i.e. a "dummy" copy is made "active" in
case of server failure) (col. 7, line 61 to col. 8, line 7).

9.   Referring to claim 9, Narendran discloses rejecting the request if the content is
not present on any of the servers (Narendran discloses using HTTP, see col. 4, line 2,
which inherently allows that if a document is not found on the server, sending a
response code of "404 – File not Found" and terminating the connection).

10.   Referring to claim 10, Narendran discloses forwarding the request to the selected
server (the Office takes the phrase "forwarding the request" to be construed as "allowing
the "selected server" the ability to handle the request") (col. 4, lines 20-25).

11.   Referring to claim 11, Narendran discloses redirecting the request to the selected

server (col. 4, lines 20-25).

12.   Claims 21, 22, 24, and 28-31 are rejected for similar reasons as stated above.

Claim Rejections - 35 USC § 103

13.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

        Claims 3 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Narendran

14.   Referring to claim 3, Narendran discloses the invention substantively as

described in claim 1. Narendran does not specifically disclose designating a director

based on the lowest load, however selecting a server based on lowest load is well

known in the art (i.e. load balancing). By this rationale, "Official Notice" is taken that the

concept and advantages of selecting a server on the basis of lowest load is well known

and expected in the art. It would have been obvious to one of ordinary skill in the art to

modify the system of Narendran since Narendran does disclose that other DNS

techniques may be used instead of Round Robin DNS (col. 4, line 44). This would

provide sufficient motiviation to one of ordinary skill in the art to find other techniques of

server selection other than Round Robin DNS, eventually finding the well known system

of lowest load selection.

15.   Claim 23 is rejected for similar reasons as stated above.

Claims 5-7, 12, 13-20, 25-27, and 32 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Narendran in view of Aversa et al. ("Load Balancing a Cluster

of Web servers Using Distributed Packet Rewriting"; Boston University; 2000)

(hereinafter Aversa).

16.   Referring to claim 5, Narendran discloses the invention substantively as

described in claim 1. Narendran further discloses including a functional state (i.e.

wether the server has failed or not) (e.g. abstract), however does not specifically

disclose that the parametric information includes a current load of each server. In

analogous art, Aversa discloses another load balancing system which discloses

selecting a server based on the current load of a server (p. 3, section 3.1, col. 1,

"whereby the server with the lowest load is selected "). It would have been obvious to

one of ordinary skill in the art to combine the teaching of Aversa with Narendran in order

to take into account the loads of the document servers of Narendran, thereby reducing

the likelihood of server overload.

17.   Referring to claims 6 and 7, Narendran in view of Aversa discloses the invention substantively as described in claim 5, however does not specifically disclose that the parametric information comprises whether each server comprises extended memory or an inline adaptable cache, however one of ordinary skill would find this obvious to include this into the load calculations since the inline cache or extended memory would greatly affect the ability of the server to handle connections. By this rationale, "Official Notice" is taken that both the concept and advantages of taking into account whether the server has extended memory or an inline adaptable cache into the load calculations of Aversa is well known in the art. It would have been obvious to one of ordinary skill in the art to modify the teaching of Narendran-Aversa to include the use of extended memory or caching into the load calculations since Aversa lists numerous metrics which can be used to determine the load (i.e. open TCP connections, CPU utilization, etc.) (p. 3, section 3.1). This would motivate one of ordinary skill in the art to find more metrics which can be used to determine load, eventually finding the utilization of extended memory and caching.

18.   Referring to claim 12, Narendran discloses the invention substantively as described in claim 1. Narendran does not specifically disclose selecting the server by calculating a load factor, identifying servers are below threshold limits, and selecting a server from the available servers with the lowest load factor, otherwise selecting a server having the lowest load factor from the plurality of servers having the content. In analogous art, Aversa discloses calculating a load factor for each server (p. 3, col. 1),

identifying as available servers one or more servers whose parameters below threshold

limits (i.e. determine whether host's load is less than MaxLoad), selecting a server from

the available servers having the lowest load factor (i.e. "server with the lowest load is

selected") (p. 3, col. 1 It would have been obvious to one of ordinary skill in the art to

combine the teaching of Aversa with Narendran in order to take into account the loads

of the document servers of Narendran, thereby reducing the likelihood of server

overload.

19.   Referring to claim 13, Narendran discloses the invention substantively as

described in the claims above. Narendran further discloses a communication

component for sending changes to the state table to the plurality of servers (i.e. update

the probabilities) (col. 12, lines 11-38). Narendran does not specifically disclose that the

state table includes parametric information for the plurality of servers, wherein the

director computer is a part of those server computers. In analogous art, Aversa

discloses a system which will receive requests at any server computer, and, based on

loading factors, will redirect the connection request to an appropriate server with the

lowest load (sections 3.1 and 3.3). It would have been obvious to one of ordinary skill in

the art to combine Narendran with Aversa in order to distribute the redirection server

functionalities amongst the document servers as supported by Aversa, thereby reducing

the likelihood of bottlenecking associated with having one or two redirection servers,

whereas incorporating Aversa into the system of Narendran, will make all the document

servers able to implement redirection functionalities, thereby reducing bottlenecking amongst the entire cluster.

20.   Referring to claim 14, Narendran discloses the server is a member of a load-balancing group, and the communication component sends changes to servers in the load-balancing group (Figure 4; col. 12, line 58 to col. 13, line 10).

21.   Claims 15-20, 25-27, and 32 are rejected for similar reasons as stated above.

Response to Arguments

22.   Applicant's arguments filed March 28, 2007 have been fully considered but they are not persuasive.

23.   In the remarks, Applicant argues, in substance, that (1), Narendran does not disclose determining whether the content is present on the director, and (2) Narendran does not disclose that the state table stores parametric information for each server in the plurality of servers, the director server being part of the plurality of server computers.

24.   As to point (1) Applicant is incorrect. Although it is not explicitly stated, this determination is inherently done, because the director automatically knows that no documents are stored locally, and therefore has already made the determination of

whether or not the document is stored at the director. By this rationale, the rejection is maintained.

25.   As to point (2) this limitation has been met by Aversa. See rejection above.

Conclusion

26.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

27.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
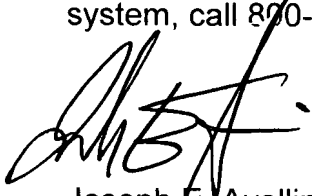
Applicant has failed to seasonably challenge the Examiner's assertions of well known subject matter in the previous Office action(s) pursuant to the requirements set forth under MPEP §2144.03. A "seasonable challenge" is an explicit demand for evidence set forth by Applicant in the next response. Accordingly, the claim limitations the Examiner considered as "well known" in the first Office action, are now established as admitted prior art of record for the course of the prosecution. See In re Chevenard, 139 F.2d 71, 60 USPQ 239 (CCPA 1943).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (571) 272-3905. The examiner can normally be reached on Monday-Friday 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Joseph E. Avellino, Examiner
April 5, 2007